General

Guideline Title

Induction of labour.

Bibliographic Source(s)

Leduc D, Biringer A, Lee L, Dy J, Clinical Practice Obstetrics Committee. Induction of labour. J Obstet Gynaecol Can. 2013 Sep;35(9):840-60. [111 references] PubMed

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Crane J. Induction of labour at term. Society of Obstetricians and Gynaecologists of Canada clinical practice guideline, No. 107. August 2001. J Soc Obstet Gynaecol Can 2001; 23(8):717-28.

Recommendations

Major Recommendations

The quality of evidence (I-III) and classification of recommendations (A-E, L) are defined at the end of the "Major Recommendations" field.

Indications/Contraindications

Recommendations

1. The indication for induction must be documented, and discussion should include reason for induction, method of induction, and risks, including failure to achieve labour and possible increased risk of Caesarean section. (III-B)
2. If induction of labour is unsuccessful, the indication and method of induction should be re-evaluated. (III-B)
3. Inductions should not be performed solely for suspected fetal macrosomia. (III-D)
4. Inductions should not be performed solely because of patient or care provider preference. (III-D)

Pre-Induction Assessment

Recommendations

5. Health care providers should assess the cervix (using the Bishop score) to determine the likelihood of success and to select the appropriate method of induction. (II-2A)
6. The Bishop score should be documented. (III-B)
7. Care providers need to consider that induction of women with an unfavourable cervix is associated with a higher failure rate in nulliparous

patients and a higher Caesarean section rate in nulliparous and parous patients. (II-2A)

Prevention of Induction

Recommendations

8. Every woman should ideally have an ultrasound, preferably in the first trimester, to confirm gestational age. (I-A)
9. Institutions should have quality assurance programs and induction policies, including safety tools such as checklists, to ensure that inductions are performed only for acceptable indications. (II-2B)

Post-Dates Induction

Recommendations

10. Women should be offered induction of labour between 41+0 and 42+0 weeks as this intervention may reduce perinatal mortality and meconium aspiration syndrome without increasing the Caesarean section rate. (I-A)
11. Women who chose to delay induction >41+0 weeks should undergo twice-weekly assessment for fetal well-being. (I-A)

Options for Cervical Ripening/Induction: Unfavourable Cervix

Recommendations

12. Intracervical Foley catheters are acceptable agents (II-2B) that are safe both in the setting of a vaginal birth after Caesarean section (I-B) and in the outpatient setting. (II-2B)
13. Double lumen catheters may be considered a second-line alternative. (II-2B)

Pharmacological Options

Summary Statements

1. Prostaglandins E_2 (PGE_2) (cervical and vaginal) are effective agents of cervical ripening and induction of labour for an unfavourable cervix. (I)
2. Intravaginal PGE_2 are preferred to intracervical PGE_2 because they results in more timely vaginal deliveries. (I)

Recommendations

14. PGE_2 (cervical and vaginal) should not be used in the setting of vaginal birth after Caesarean section due to the increased risk of uterine rupture. (II-2D)
15. Vaginal PGE_2 may be considered with ruptured membranes at term and can be used in this setting. (I-A)
16. Misoprostol can be considered a safe and effective agent for labour induction with intact membranes and on an inpatient basis. (I-A)
17. Misoprostol should not be used in the setting of vaginal birth after Caesarean section due to the increased risk of uterine rupture. (II-3D)
18. Oxytocin should be started no earlier than 4 hours after the last dose of misoprostol. (III-B)

Options for Induction with a Favourable Cervix

Recommendations

19. Amniotomy should be reserved for women with a favourable cervix. Particular care should be given in the case of unengaged presentation because there is a risk of cord prolapse. (III-B)
20. After amniotomy, oxytocin should be commenced early in order to establish labour. (III-B)
21. In the setting of ruptured membranes at term, oxytocin should be considered before expectant management. (I-A)
22. Women positive for group B streptococcus (GBS) should be started on oxytocin as early as possible after ruptured membranes in order to establish labour within 24 hours. (III-B)
23. Both high- and low-dose oxytocin may be considered within a hospital protocol. (III-B)
24. Because of the various concentrations, oxytocin infusion rates should always be recorded in mU/min rather than mL/hr. (III-L)
25. Oxytocin induction maybe considered in the hospital setting of vaginal birth after Caesarean section. (II-3B)

Definitions:

Quality of Evidence Assessment*

I: Evidence obtained from at least one properly randomized controlled trial

II-1: Evidence from well-designed controlled trials without randomization

II-2: Evidence from well-designed cohort (prospective or retrospective) or case–control studies, preferably from more than one centre or research group

II-3: Evidence obtained from comparisons between times or places with or without the intervention. Dramatic results in uncontrolled experiments (such as the results of treatment with penicillin in the 1940s) could also be included in this category

III: Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees

*Adapted from The Evaluation of Evidence criteria described in the Canadian Task Force on Preventive Health Care.

Classification of Recommendations†

A. There is good evidence to recommend the clinical preventive action

B. There is fair evidence to recommend the clinical preventive action

C. The existing evidence is conflicting and does not allow to make a recommendation for or against use of the clinical preventive action; however, other factors may influence decision-making

D. There is fair evidence to recommend against the clinical preventive action

E. There is good evidence to recommend against the clinical preventive action

L. There is insufficient evidence (in quantity or quality) to make a recommendation; however, other factors may influence decision-making

†Adapted from the Classification of Recommendations criteria described in the Canadian Task Force on Preventive Health Care.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Conditions requiring induction of labour in pregnancy

Note: See the original guideline document for a list of conditions considered indications for induction of labour.

Guideline Category

Evaluation

Management

Risk Assessment

Treatment

Clinical Specialty

Obstetrics and Gynecology

Intended Users

Advanced Practice Nurses

Nurses

Physician Assistants

Physicians

Guideline Objective(s)

To review the most current literature in order to provide evidence-based recommendations to obstetrical care providers on induction of labour

Target Population

Pregnant women requiring induction of labour

Interventions and Practices Considered

1. Documentation of indication for induction
2. Assessment of the cervix using the Bishop score
3. Ultrasound to confirm gestational age
4. Establishment of quality assurance programs and induction policies
5. Twice-weekly assessment for fetal well-being (if induction is delayed >41+0 weeks)
6. Intracervical Foley/double lumen catheters
7. Prostaglandins E_2 (cervical and vaginal)
8. Misoprostol
9. Oxytocin
10. Amniotomy

Major Outcomes Considered

- Appropriate timing and method of induction
- Appropriate mode of delivery
- Optimal maternal and perinatal outcomes
- Maternal and perinatal morbidity

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Searches of Unpublished Data

Description of Methods Used to Collect/Select the Evidence

Published literature was retrieved through searches of PubMed, CINAHL, and The Cochrane Library in 2010 using appropriate controlled vocabulary (e.g., labour, induced, labour induction, cervical ripening) and key words (e.g., induce, induction, augmentation). Results were restricted to systematic reviews, randomized control trials/controlled clinical trials, and observational studies. There were no date or language

restrictions. Searches were updated on a regular basis and incorporated in the guideline to the end of 2010. Grey (unpublished) literature was identified through searching the websites of health technology assessment and health technology-related agencies, clinical practice guideline collections, clinical trial registries, and national and international medical specialty societies.

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Quality of Evidence Assessment*

I: Evidence obtained from at least one properly randomized controlled trial

II-1: Evidence from well-designed controlled trials without randomization

II-2: Evidence from well-designed cohort (prospective or retrospective) or case–control studies, preferably from more than one centre or research group

II-3: Evidence obtained from comparisons between times or places with or without the intervention. Dramatic results in uncontrolled experiments (such as the results of treatment with penicillin in the 1940s) could also be included in this category

III: Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees

*Adapted from The Evaluation of Evidence criteria described in the Canadian Task Force on Preventive Health Care.

Methods Used to Analyze the Evidence

Systematic Review

Description of the Methods Used to Analyze the Evidence

The quality of evidence in this document was rated using criteria described in the Report of the Canadian Task Force on Preventative Health Care (see the "Rating Scheme for the Strength of the Evidence" field).

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Not stated

Rating Scheme for the Strength of the Recommendations

Classification of Recommendations†

A. There is good evidence to recommend the clinical preventive action

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C. The existing evidence is conflicting and does not allow to make a recommendation for or against use of the clinical preventive action; however, other factors may influence decision-making

D. There is fair evidence to recommend against the clinical preventive action

E. There is good evidence to recommend against the clinical preventive action

L. There is insufficient evidence (in quantity or quality) to make a recommendation; however, other factors may influence decision-making

†Adapted from the Classification of Recommendations criteria described in the Canadian Task Force on Preventive Health Care.

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

Internal Peer Review

Description of Method of Guideline Validation

This clinical practice guideline has been prepared by the Clinical Practice Obstetrics Committee, reviewed by the Maternal Fetal Medicine and Family Practice Advisory Committees, and approved by the Executive and Council of the Society of Obstetricians and Gynaecologists of Canada.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate timing and intervention in pregnancy with induction of labour

Potential Harms

- Induction of labour using various methods may be associated with an increased risk of:
  - Failure to achieve labour
  - Caesarean section
  - Operative vaginal delivery
  - Tachysystole with or without fetal heart rate (FHR) changes
  - Chorioamnionitis and/or endomyometritis
  - Cord prolapse with artificial rupture of membranes (ARM)
  - Inadvertent delivery of preterm infant in the case of inadequate dating
  - Uterine rupture in scarred and unscarred uteri
  - Maternal/neonatal infection

- Adverse effects with the use of prostaglandin E_2 include uterine tachysystole and maternal effects (i.e., fever, chills, vomiting, diarrhea). Rare, idiopathic adverse cardiovascular events may also occur.
- Serious adverse events with the use of misoprostol are similar to those of other prostaglandins (PG) and include uterine tachysystole with its potential fetal and maternal effects and meconium staining of liquor.
- Cord prolapse is a risk of amniotomy, especially in a high presentation or unstable lie.

Contraindications

Contraindications

- Induction should be avoided if there are any contraindications to labour or vaginal delivery. They include, but are not limited to the following:
  - Placenta or vasa previa or cord presentation
  - Abnormal fetal lie or presentation (e.g., transverse lie or footling breech)
  - Prior classical or inverted T uterine incision
  - Significant prior uterine surgery (e.g., full thickness myomectomy)
  - Active genital herpes
  - Pelvic structural deformities
  - Invasive cervical carcinoma
  - Previous uterine rupture
- Low-lying placenta is an absolute contraindication to the use of a Foley catheter. Relative contraindications to its use include antepartum hemorrhage, rupture of membranes, and evidence of lower tract genital infection.
- Prostaglandins E_2 (cervical and vaginal) should not be used in the setting of vaginal birth after Caesarean section due to the increased risk of uterine rupture.
- Misoprostol should not be used in the setting of vaginal birth after Caesarean section due to the increased risk of uterine rupture.
- Contraindications of amniotomy include placenta previa, vasa previa, and active genital infection except for women colonized with group B streptococcus (GBS).

Qualifying Statements

Qualifying Statements

This document reflects emerging clinical and scientific advances on the date issued and is subject to change. The information should not be construed as dictating an exclusive course of treatment or procedure to be followed. Local institutions can dictate amendments to these opinions. They should be well documented if modified at the local level. None of these contents may be reproduced in any form without prior written permission of the Society of Obstetricians and Gynaecologists of Canada (SOGC).

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Foreign Language Translations

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Staying Healthy

IOM Domain

Effectiveness

Patient-centeredness

Timeliness

Identifying Information and Availability

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Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2001 Aug (revised 2013 Sep)

Guideline Developer(s)

Society of Obstetricians and Gynaecologists of Canada - Medical Specialty Society

Source(s) of Funding

Society of Obstetricians and Gynaecologists of Canada

Guideline Committee

Clinical Practice Obstetrics Committee

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Financial Disclosures/Conflicts of Interest

Disclosure statements have been received from all contributors.

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Guideline Availability

Electronic copies: Available from the Society of Obstetricians and Gynaecologists of Canada Web site. Also available in French from the SOGC Web site.

Print copies: Available from the Society of Obstetricians and Gynaecologists of Canada, La société des obstétriciens et gynécologues du Canada (SOGC) 780 promenade Echo Drive Ottawa, ON K1S 5R7 (Canada); Phone: 1-800-561-2416.

Availability of Companion Documents

None available

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI Institute on January 31, 2014. The information was verified by the guideline developer on March 17, 2014.

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